

EXHIBIT F

, D (DOB:
FORMAL HEALTH RECORD

99214
INST

Scott Jensen, MD
Electronic Signature

ENCOUNTER Thursday, September 20, 2018 8:44AM

CC. sick

HPI July 2nd had right knee injury. medial right knee twist. unable to walk. did exercises to strengthen and returned to walking. thought he was 100%. only treated with chiro. friday of labor day weekend he was sitting on floor playing a game. couldn't stand up. knee was painful and buckling. got better with rest. then returned with activity. saw chiro again. said it was ok. saw ortho: was told ligaments feel intact, normal strength. "give it some time" saw sports med specialist. 45min functional exam told everything was ok. Then developed bilateral knee pain and knee instability. returned to Ortho. was told give it 6-8wks. attributed pain on left d/t compensation for right. complains of intermittent tingling on right shin. started using wheelchair to avoid aggravating. started PT friday. complaining of pain bilaterally from groin to medial knee. tingling on right lower leg. mom thinks that she has noticed a bump in right tibia. following Stage 1 GAPS. feels that it is great for healing and making progress with autism, curious if the legs pains are associated to some type of nutritional deficiency. mom is also suspecting histamine sensitivity.

ROS denies speech, vision, memory changes
denies syncope, presyncope
denies headaches
denies confusion or changes in behavior or affect

PFSH Pervasive development disorder - speech delay - short stature - Autism
Brother-twin - autism
Dad: HT

Lives mom, dad, twin brother [Tobacco: Never smoker]

All No Known Allergies

Meds No Active Meds

PE Wt: 42.8 lb Ht/Ln: 42.5 in BMI: 16.7 BMI %: 44.0 Pulse: 115 RR: 20 Temp: 98.2F Sat: 99
Pain: 0

AP Well nourished and well developed in no acute distress. Affect is normal and appropriate. Mucosa pink and moist. Chest is CTA. Heart is RRR without murmurs. Gait is ataxic. firm mobile masses on front of bilateral shins. normal and equal strength of lower extremities. normal ROM of lower extremities without pain. no joint line tenderness.

Acute cerebellar ataxia of childhood (R27.8):

Autism (F84.0):

Neuropathy (G62.9):

Knee pain (M25.569):

Instability of knee (M25.369):

Lump on extremities (R22.9):

Plan printed and provided to patient:

Spectracell or Vibrant Micronutrient Test

We will let you know your test results when we receive and review them. Please allow 4 weeks from when the testing was completed. Abnormal results may require a follow up visit to discuss a treatment plan and further testing if needed.

ORDERED/ADVISED: - Ultrasound Lower extremity (bilateral) ICD Codes (R22.9)

ORDERED/ADVISED: - Neurology (peds) ICD Codes (G11.9, R27.8)

Signed by: Timothy Lane, PA-C

{Reviewed by Scott Jensen, MD. Signed on 9/21/18 9:21 AM. }99213

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KAHRAMAN 002767



I, D
FORMAL HEALTH RECORD

INST

Timothy Lane, PA-C/S. Jensen, MD
Electronic Signature

ENCOUNTER

Monday, January 08, 2018 2:28PM

CC: WCC

HPI WCC - GAPS x 18 mo - benefits noted - mom reports she has seen gallstones - not seen in sometime - ND in GA (phone c/s every few months)

ROS

PFSH

Pervasive development disorder - speech delay - short stature

Brother-twin - autism

Dad: HT

Lives mom, dad, twin brother [Tobacco: Never smoker]

All

No Known Allergies

Meds

No Active Meds

PE

Wt: 18.688 kg Ht/Ln: 40.5 in BMI: 17.7 BMI %: 62.0 Pulse: 101 RR: 22 Temp: 97.8F Sat: 97 Pain: 0

WNWD NAD. Affect and behavior are normal and appropriate. Mucosa is pink and moist. Pharynx is normal. PERRLA. Normal retinal reflex and no lazy eye. TMs and canals are normal bilaterally with normal light reflex and no erythema. No cervical nodes. Chest CTA. Cor RRR without murmurs. Abdomen is soft without masses. Ext without c/c/e.

AP

Routine infant or child health check (Z00.129):

Pervasive developmental disorder (F84.9):

Sensory integration disorder (R44.8):

Short stature (R62.52):

Vaccination delayed (Z28.3):

Vaccination not carried out because of caregiver refusal (Z28.82):

Plan printed and provided to patient:

Vitamin D3 4,000 IU/day (reduce risk of cancer and diabetes and improve muscle strength) with vitamin K2 (MK-7 is anti-aging fraction of K2 and improve bone health) - eliminate any calcium supplementation - see info on vitamin K2 (Chris Masterjohn PhD) online - also Weston A Price (see info - dentist) "X-factor vitamin" - make sure any pregnant women are taking these supplements (D - autism risk reduction; K2 braces/dental issues in kids) - we carry a supplement with both of these (a trial of Thorne brand)

Continue PT, OT, Speech, Music therapy

Follow up 1 year 99393

INST

Scott Jensen, MD
Electronic Signature

ENCOUNTER

Wednesday, November 15, 2017 3:24PM

CC: Possible concussion

HPI 1 wk ago patient fell out of converted crib bed landing on carpet with blanket coverin. hit head. was screaming, crying. no one witness fall. he claimed he hit top of head. mom is accupunturist who did neuro exam and everything checked out except he mentioned tingling in arms and legs. has seen peds chiro twice since fall who said no xrays needed. tingling was gone after first adjustment. he now states that he has tingling all over his body, mostly in his chin.

ROS

PFSH

denies nausea, vomiting, headaches, dizziness, changes in behavior, changes in mood, confusion.

Pervasive development disorder - speech delay - short stature

Brother-twin - autism

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KAHRAMAN 002768

D
FORMAL HEALTH RECORD

Dad: HT
Lives mom, dad, twin brother [Tobacco: Never smoker]
All No Known Allergies
Meds No Active Meds
PE Wt: 41.8 lb Ht/Ln: 41 in BMI: 17.5 BMI %: 59.1 Pulse: 104 RR: 24 Temp: 97.9F Sat: 97
Pain: 0

Well nourished and well developed in no acute distress. Affect is normal and appropriate. Mucosa is pink & moist. Pupils equal and round, extraocular movements are intact. Extremities show no cyanosis or clubbing. Gait is normal. no spinal tenderness. normal ROM of neck. CN intact.

AP # Head injury (S09.90XA):
Plan printed and provided to patient:
he is 18kgs. Take 2000-3000IU d3 daily
weight based dosing
10kg - 1000IU
every additional 5kg add 1000IU
55kg and greater - 10,000IU

antiinflammatories s/p head injury
fish oil
magnesium
turmeric

if develops any neuro symptoms: dizziness, nausea, vomiting, numbness, weakness, confusion, behavior changes follow up or seek other medical attn
PROVIDED: Patient Education (11/15/2017) - uptodate concussion in kids

Signed by: Timothy Lane, PA-C
{Reviewed by Scott Jensen, MD. Signed on 11/15/17 4:05 PM. }99213

INST

Timothy Lane, PA-C/S. Jensen, MD
Electronic Signature

ENCOUNTER Wednesday, May 10, 2017 9:57AM

CC: Est Care/ WCC

HPI **WCC - gaining wt on GAPS after having some signs of FTT and possible abnormal bone - NSVD - mom 38 weeks GBS pos (5 doses abx for mom) - breastfed 2.5 yrs - improvement in sensory and cognitive and speech since GAPS**

ROS Speech delay - speech on board - OT - PT - Music therapy (same as brother except brother does not do speech)

PFSH Pervasive development disorder - speech delay - short stature
Brother-twin - autism
Dad: HT
Lives mom, dad, twin brother [Tobacco: Never smoker]

All No Known Allergies
Meds No Active Meds
PE Wt: 37 lb Ht/Ln: 39.1 in BMT 17.0 BMI %: 50.9 BP: 90/62 Pulse: 108 RR: 24 Temp: 98.2F
Sat: 97 Pain: 0

WNWD NAD. Affect and behavior are normal and appropriate. Mucosa is pink and moist. Pharynx is normal. PERRLA. Normal retinal reflex and no lazy eye. TMs and canals are normal bilaterally with normal light reflex and no erythema. No cervical nodes. Chest CTA. Cor RRR without murmurs. Abdomen is soft without masses. Ext without c/c/e.

AP # 4.5 year examination normal (Z00.129):
Pervasive developmental disorder (F84.9):

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KAHRAMAN 002769

, D
FORMAL HEALTH RECORD

Sensory integration disorder (R44.8):
 # Nocturnal enuresis (N39.44): try MTHFR protocol with methylfolate
 # Short stature (R62.52):
 # Vaccination delayed (Z28.3):
 # Vaccination not carried out because of caregiver refusal (Z28.82):
 Plan printed and provided to patient:
 Follow up 1 year

Continue PT, OT , Speech, Music therapy

Continue GAPS diet

Continue natural doctor follow up

Sent info on the methylfolate supplement as option for nocturnal enureiss99382

INST

Scott Jensen, MD
 Electronic Signature

LAB HISTORY

NAME	VALUE	NORMAL	UNITS	Flag	Status	Performed By
LAB ID: 169013, Specimen ID: 24732405, Collected On: 09/20/2018, Provided By: Simon Medical Imaging						

US - EXTREMITY NON-VASCULAR; COMPLETE

Exam # 24732405 - Sep 20 2018 - US - EXTREMITY NON-VASCULAR; COMPLETE (Left)
 Exam Performed at SimonMed Mesa Drive

High-resolution ultrasound of the subcutaneous soft tissues of the left mid calf.

CLINICAL HISTORY: Palpable lump.

COMPARISON: None.

TECHNIQUE: Real-time sonographic images of the subcutaneous soft tissues of the left mid calf was done using the 13 MHz linear transducer.

FINDINGS: Subcutaneous encapsulated lipoma is noted at the area of concern. It measures 5 x 3 mm. No additional sonographic abnormality is seen.

IMPRESSION:

5 x 3 mm calculi lipoma within the left mid calf at the area of concern.

Lance A. Cohen, M.D., DABR
 CAQ in Pediatric Imaging

LABORATORY REPORT

Account Number:

Timothy Lane, PA-C
 21321 E. Ocotillo Rd.
 #123
 Queen Creek, AZ 85142
 United States

Name: **D**

Gender: Male

DOB:

Accession Number:

S73452

Requisition Number:

1708117

Date of Collection:

09/20/2018

Date Received:

09/21/2018

Date Reported:

10/05/2018

Summary of Deficient Test Results

Testing determined the following functional deficiencies:

Vitamin K2

Copper

Borderline deficiencies include:

Vitamin B1

Vitamin B3

Vitamin B12

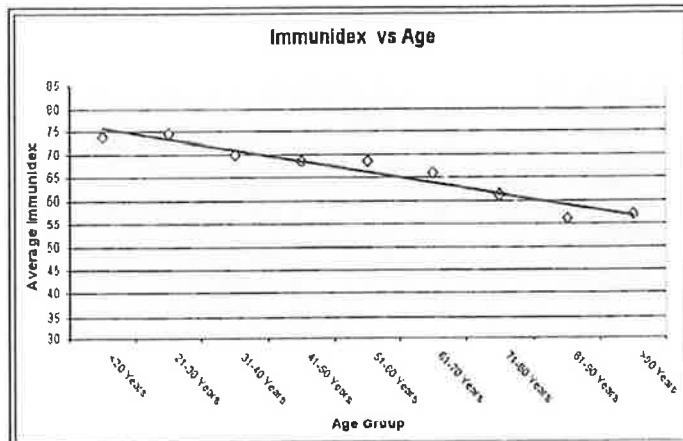
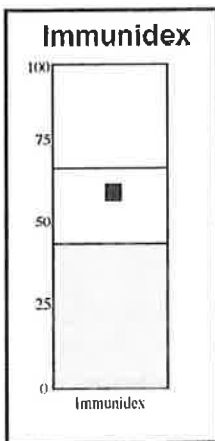
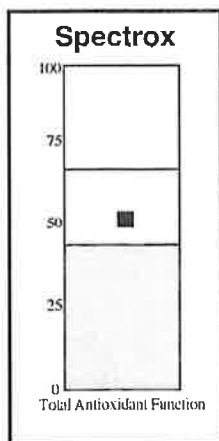
Carnitine

Vitamin D3

Fructose

Spectrox

Immunindex



Jonathan Stein, Ph.D.
 Laboratory Director

CLIA# 45D0710715

All tests performed by SpectraCell Laboratories, Inc. * 10401 Town Park Drive Houston, TX 77072
 Tel (713) 621-3101 * Toll-free (800)-227-LABS(5227) * Fax (713) 621-3234 * www.spectracell.com

KAHRAMAN 002772



SUPPLEMENTAL INFORMATION

Name: D;
Gender: Male DOB:
Accession Number: :

Date Received: 09/21/2018
Date Reported: 10/05/2018
Requisition Number: 1708117

Account Number: 285903
Timothy Lane , PA-C
21321 E. Ocotillo Rd.
#123
Queen Creek, AZ 85142
United States

Received: Tuesday, February 26, 2019 7:48 AM

From: Cindy Schneider cschneider@center4autism.org

To: Kendyl AskKendyl@protonmail.com

It is extremely likely that your children have a mitochondrial disorder and Dr. Frye is an expert in this field. They also need to be tested for cerebral folate deficiency, and he is also an expert in that area. Those are tests that I routinely do as well. Given their previous test results and current symptoms, any knowledgeable physician would want to do these tests, which are more readily available to us now than they were when I last saw your boys. An EEG is also warranted, which would not require sedation. An MRI is much lower on the list of ideal tests.

On Feb 25, 2019, at 9:58 PM, Kendyl <AskKendyl@protonmail.com> wrote:

Would the labs you'd run be a lot different than what Dr. Frye would do? Ideally, we should get them both in with both of you?

I saw he's a neurologist. We did see NP Daniel Crawford at PCH in November (who I know is not a metabolic specialist). He did not feel their presentation was neurological but wanted to do a sedated EMG and MRI anyway, just to rule it out while waiting for rheumatology. Another neurologist evaluated Kenan at Banner and said he also did not feel it was neurological. We did not feel it warranted the risk of sedation, given their input. Would Dr. Frye likely do blood work instead?

I realize we need to – and I'm willing to do whatever is necessary to get the boys the care they need, and I have heard from multiple sources that Dr. Frye is uniquely specialized in this field. I think you understand our concerns over sedation, unless absolutely necessary, given their mitochondrial issues.

Thank you for your advice
Jessica



The Great Plains Laboratory, LLC

MycoTOX
 Profile

Requestion #:

Physician Name:

SCOTT JENSEN

Patient Name:

D

Date of Collection:

Feb 20, 2023

Date of Birth:

Sep 27, 2012

Time of Collection:

Not Given

Gender:

M

Print Date:

Mar 7, 2023

Specimen Id.:

1162126-2

Mycotox Profile

Creatinine Value:

66.76 mg/dl

Metabolite	Results (ng/g creatinine)	Normal Range *	Abnormal Range
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Aspergillus

Aflatoxin-M1	0.00	< 0.5	
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▲ 0.5

Ochratoxin A	24.78	< 7.5	
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▲ 7.5

Glutotoxin	0.00	< 200	
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▲ 200

Penicillium

Sterigmatocystin	0.00	< 0.4	
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▲ 0.4

Mycophenolic Acid	0.00	< 37.4	
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▲ 37.4

* The normal range was calculated using the median + 2 times the standard deviation

Testing performed by The Great Plains Laboratory, LLC, Overland Park, Kansas. The Great Plains Laboratory has developed and determined the performance characteristics of this test. The test has not been evaluated by the U.S. Food and Drug Administration. The FDA does not currently regulate such testing.

Page 1 of 4

Angie Purvis, Lab Director | 9221 Quivira Road, Overland Park, KS 66215 | (913) 341-8949 | Fax: (913) 341-6207 | GP-Labs.com

KAHRAMAN 002785



The Great Plains Laboratory, LLC

MycoTOX
 Profile

Regulation #:		Physician Name:	SCOTT JENSEN
Patient Name:	D)	Date of Collection:	Feb 20, 2023
Date of Birth:	Sep 27, 2012	Time of Collection:	Not Given
Gender:	M	Print Date:	Mar 7, 2023
Specimen Id.:	1162126-2		

Mycotoxin Profile

Metabolite	Results (ng/g creatinine)	Normal Range *	Abnormal Range
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Stachybotrys

Roridin E	0.00	< 0.2	▲ 0.2
Verrucaric Acid	0.00	< 1.3	▲ 1.3

Fusarium

Enniatin B	0.00	< 0.3	▲ 0.3
Zearalenone	0.00	< 3.2	▲ 3.2

* The normal range was calculated using the median + 2 times the standard deviation

Testing performed by The Great Plains Laboratory, LLC, Overland Park, Kansas. The Great Plains Laboratory has developed and determined the performance characteristics of this test. The test has not been evaluated by the U.S. Food and Drug Administration. The FDA does not currently regulate such testing.

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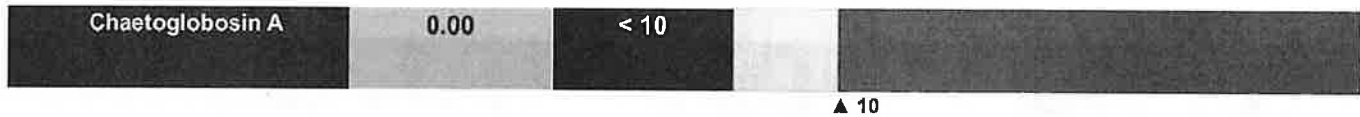
KAHRAMAN 002786



The Great Plains Laboratory, LLC



Requisition #:		Physician Name:	SCOTT JENSEN
Patient Name:	D	Date of Collection:	Feb 20, 2023
Date of Birth:	Sep 27, 2012	Time of Collection:	Not Given
Gender:	M	Print Date:	Mar 7, 2023
Specimen Id.:	1162126-2		

Chaetomium globosum**Multiple Mold Species**

Testing performed by The Great Plains Laboratory, LLC, Overland Park, Kansas. The Great Plains Laboratory has developed and determined the performance characteristics of this test. The test has not been evaluated by the U.S. Food and Drug Administration. The FDA does not currently regulate such testing.

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KAHRAMAN 002787



The Great Plains Laboratory, LLC



Regulation #:		Physician Name:	SCOTT JENSEN
Patient Name:	C	Date of Collection:	Feb 20, 2023
Date of Birth:	Sep 27, 2012	Time of Collection:	Not Given
Gender:	M	Print Date:	Mar 7, 2023
Specimen Id.:	1162126-2		

Ochratoxin: Ochratoxin A (OTA) is a nephrotoxic, immunotoxic, and carcinogenic mycotoxin. This chemical is produced by molds in the *Aspergillus* and *Penicillium* families. Exposure is done primarily through water damaged buildings. Minimal exposure can occur through contaminated foods such as cereals, grape juices, dairy, spices, wine, dried vine fruit, and coffee. Exposure to OTA can also come from inhalation exposure in water-damaged buildings. OTA can lead to kidney disease and adverse neurological effects. Studies have shown that OTA can lead to significant oxidative damage to multiple brain regions and is highly nephrotoxic. Dopamine levels in the brain of mice have been shown to be decreased after exposure to OTA. Some studies have hypothesized that OTA may contribute to the development of neurodegenerative diseases such as Alzheimer's and Parkinson's. **Treatment should be aimed at removing the source of exposure.** Agents such as oral cholestyramine, charcoal, and phenylalanine can help prevent the absorption of these toxins from food. Antioxidants such as vitamins A, E, C, NAC, rosmarinic acid, and liposomal glutathione alone or in combination have been shown to mitigate the oxidative effects of the toxin. Bentonite or zeolite clay is reported to reduce the absorption of multiple mycotoxins found in food, including OTA. Studies have also shown that OTA is present in sweat, which supports the use of sauna as a treatment to increase the excretion of OTA. Retesting is recommended after 3-6 months of treatment.

(PMID 17195275, 16293235, 27521635, 22069626, 24792326, 22253638, 16140385, 2467220, 16844142, 19148691, 22069658, 16019795, 18286403, 15781206, 11439224, 17092826, 32710148)

Citrinin (Dihydrocitrinone DHC): Citrinin (CTN) is a mycotoxin that is produced by the mold genera *Aspergillus*, *Penicillium*, and *Monascus*. CTN exposure can lead to nephropathy, because of its ability to increase permeability of mitochondrial membranes in the kidneys. The three most common exposure routes are through ingestion, inhalation, and skin contact. CTN has been shown to be carcinogenic in rat studies. Multiple studies have linked CTN exposure to a suppression of the immune response. Retesting is recommended after 3-6 months of treatment.

(PMID: 11567776, 24048364, 10788357)

Testing performed by The Great Plains Laboratory, LLC, Overland Park, Kansas. The Great Plains Laboratory has developed and determined the performance characteristics of this test. The test has not been evaluated by the U.S. Food and Drug Administration. The FDA does not currently regulate such testing.

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KAHRAMAN 002788



**PHOENIX
CHILDREN'S
Medical Group**

K , D
Male, DOB: Age: !
MRN: 727-35-69, Visit: 41159924, 09/24/2018
Bowman, Eric - Orthopedic Surgery

Ortho General Sports Injury Template

☒ Initial Visit ☐ Follow Up Visit ☐ Referred to me for consultation

Primary Care Physician/Referring Physician

PCP

Jensen, Scott, MD (Family Practice)

Referring Physician

Jensen, Scott, MD (Family Practice)

Chief Complaint-Reason for Visit

NP LT KNEE INJURY POSS FX x3 weeks

History of Present Illness

I had the pleasure of seeing DYLAN KAHRAMAN, a 5 Years, 11 Months year old male, in clinic today for evaluation. DYLAN is here with left knee pain. Mom reports that on July second, before taekwondo he twisted right ankle and knee. Mom says that there was medial bruising and swelling. After 6 weeks, the pain returned, located on the medial side of thigh, from groin to knee. They went to PT with no help. Mom said they got labs done and had a vitamin D deficiency so Mom was pushing some foods that he normally wouldn't like. He was having a hard time bearing weight. Mom says that he got hyper yesterday and fell off a chair. He says he fell straight onto the patella but no one saw it actually happen. He has been in a lot of pain when moving it and screams when anyone tries to touch it. He has been using a wheelchair and says that it hurts to stand. They have used ice and topical herbs which he thinks has helped.

Mom says that he has had bad experiences with X-rays in the past and may be giving false information (during exam) to avoid them. Mom says that there have been nodules on the front of his shins which has been seen on ultrasound.

Questionnaire reviewed and signed and scanned into the chart

☒ Reviewed and signed past medical, family, and social history and review of systems on the Initial History Questionnaire dated:

9/24/2018

Home Medications:

Drug Instructions

No Current Medications

Allergies

No Known Allergies

Vital Signs



**PHOENIX
CHILDREN'S
Medical Group**

K, **D**

Male, DOB: ()
MRN: 727-35-69, Visit: 41159924, 09/24/2018
Bowman, Eric - Orthopedic Surgery

Vital Signs:

Temp	Heart Rate	Resp Rate	BP	BP Percentiles
C	130		112 systolic: 79 diastolic:	%ile (sys) %ile (dias)

Physical Exam

Normal Exam

General Appearance: General appearance normal: no apparent distress; cooperative;

Cardiovascular Exam: cap. refill less than 3 sec;

Neurological Exam: neurovascular function intact; awake, alert, and oriented;

Skin Exam: skin is intact except as noted;

pain level 6/10 PainScore: expressed Wong/Baker Faces PainScale;

Sports Injury Specific

☒ left knee injury; ☒ right knee exam normal;

Left Knee

Inspection: no effusion in left knee; no swelling of left knee;

Palpation (tenderness): tibial tubercle pain on left; MCL pain left knee; pain medial patellar retinaculum left knee;

tenderness on palpation of medial patellar facet of left knee; patella articular facet pain;

tenderness of anterior left knee on palpation;

ROM: full range of motion left knee;

Gait: unable to bear weight on left;

Special Test: Valgus Stress test of left knee positive pain ;

Imaging Discussions

none today

Assessment:

Problems	Onset	Type
Pain in left knee _M25.562	2018-09-24	Acute Issue

Advanced Neurologic Rehabilitation
1447 W Elliot Rd Ste 101
Gilbert, AZ 85233-5166
Phone: (480)699-4845
Fax: (480)699-5085

Physical Therapy Initial Examination Addendum



Advanced Neurologic Rehabilitation

Patient Name: Ka
Date of Birth: ()
Referring Physician(s): Jensen, Scott MD

Date of Initial Examination: 10/08/2018
Injury/Onset/Change of Status Date: 07/02/2018
Diagnosis: ICD10: R26.9: Unspecified abnormalities of gait and mobility, R27.8: Other lack of coordination, F84.0: Autistic disorder, M25.369: Other instability, unspecified knee, M25.569: Pain in unspecified knee
Visit No.: 1
Visits from SOC: 1

Time In/Out: 8:50 am/9:35 am

Treatment Diagnoses: ICD10: M62.81: Muscle weakness (generalized), R26.81: Unsteadiness on feet, R20.2: Paresthesia of skin, M25.562: Pain in left knee, M25.561: Pain in right knee

Insurance Name: Cigna-American Specialty Health

Subjective

History of Present Condition/Mechanism of Injury: Pt is a 6 year old male with history of bilateral knee pain (started with twisting injury to right knee in July 2018), autism, pervasive developmental disorder, and speech delay. Patient's knees have been examined by multiple physicians and chiropractors since July as he has had several exacerbations of pain and now has not been able to stand or walk x 3 weeks secondary to joint pain and also weakness in the lower extremities. Patient has complained of intermittent paresthesias. X-rays of the lower extremities were unremarkable. Patient is awaiting results of bloodwork. Patient has been referred to neurologist but can't be seen until February 2018. Patient will see his functional medicine physician again soon. His naturopath believes patient is deficient in micronutrients because of the GAPS diet the patient is on and parents have been trying to increase his micronutrient density in food but he has a lot of food sensitivities. Parents are also concerned with a possible viral cause or chemical sensitivities such as from the playground or classroom.

Patient has a history of impaired coordination and balance and has received in home therapy from a young age. His balance, however, is much better over the last 1-2 years until recently. Patient participates in martial arts, swimming and enjoys legos.

Primary Concern/Chief Complaint: Knee, ankle and hip pain bilaterally; intermittent paresthesias; loss of mobility and strength; dependence on wheelchair for mobility at this time; fear of standing and walking

Before the injury/onset/change of status date, the patient was able to perform the following activities:

Changing & Maintaining Body Position: Independent in transfers and standing

Mobility: Walking & Moving Around:

Current Functional Limitations:

Changing & Maintaining Body Position: Maintaining a Body Position: Kneeling - minA to get into kneeling, reduced stability in this position - Reduced speed and coordination to attain position such as quadruped and during rolling; requires hand held assist to get into tall kneeling and shows weakness in this position

Mobility: Walking & Moving Around: Use of an Assistive Device: Wheelchair for mobility; Walking: Hasn't walked x 2-3 weeks; Moving Around: Currently unable to run or walk more than a few steps; Moving Around in Different Locations: Impaired - Pt will play on the floor or sit on the couch, uses wheelchair for all mobility

Pain Location: Bilateral lower extremities

Pain Scale: Worst: Best: Current:

Informant Providing History: Mother

Social History:

Social History: Lives with Family; (Parents and twin brother)

Home Layout: 2-story

Durable Medical Equipment: Wheelchair

Home Health Care: No

Premature Birth: No

Any Complications: No

Child in NICU: No

Special Precautions: Food Allergy, Pt's prefer natural cleaning products for wiping mat

Medical History: Autism, developmental disorder

Diagnostic Testing/Imaging: X-rays of lower extremities unremarkable

Complicating/Personal Factors: Mechanism of injury/ Illness (Initial injury with unexpected progression), Multiple Treatment Areas (Bilateral lower extremities), Patient age (6yo), Previous Therapy (Since a young age)

Medical History Review: The patient has a history of present problem with a history of 1-2 personal factors and/or comorbidities that impact the plan of care.

Mental Status/Cognitive Function Appears Impaired? No

Current Medications: Not currently taking any medications

Goals: Walk and stand, restore joint stability at knees

School Attending: Basis Chandler Primary North

Reviewed by **WCA PT**

KAHRAMAN 002792

Advanced Neurologic Rehabilitation
1447 W Elliot Rd Ste 101
Gilbert, AZ 85233-5166
Phone: (480)699-4845
Fax: (480)699-5085



Plan of Care

Advanced Neurologic Rehabilitation

Patient Name: K: D
Date of Birth:
Referring Physician(s): Jensen, Scott MD

Date of Plan of Care: 10/08/2018

Injury/Onset/Change of Status Date: 07/02/2018

Diagnosis: ICD10: R27.8: Other lack of coordination, F84.0: Autistic disorder, M25.369: Other instability, unspecified knee, M25.569: Pain in unspecified knee

Date of Original Eval: 10/08/2018

Treatment Diagnosis: ICD10: M62.81: Muscle weakness (generalized), R26.81: Unsteadiness on feet, R20.2: Paresthesia of skin, M25.562: Pain in left knee, M25.561: Pain in right knee

Insurance Name: Cigna-American Specialty Health

Time In/Out: 8:50 am/9:35 am
Visit No.: 1

Visits from SOC: 1

Assessment

Assessment/Diagnosis: Pt is a sweet 6 year old male with history of bilateral knee pain (started with twisting injury to right knee in July 2018), autism, pervasive developmental disorder, and speech delay. Patient's knees have been examined by multiple physicians and chiropractors since July as he has had several exacerbations of pain and now has not been able to stand or walk x 3 weeks secondary to joint pain and also weakness in the lower extremities. He is utilizing the wheelchair and being transported by parents. Patient has complained of intermittent paresthesias. X-rays of the lower extremities were unremarkable. Patient is awaiting results of bloodwork. Patient has been referred to neurologist but can't be seen until February 2018. Patient will see his functional medicine physician again soon. His naturopath believes patient is deficient in micronutrients because of the GAPS diet the patient is on and parents have been trying to increase his micronutrient density in food but he has a lot of food sensitivities. Parents are also concerned with a possible viral cause or chemical sensitivities such as from the playground or classroom.

Patient has a history of impaired coordination and balance and has received in home therapy from a young age. His balance, however, is much better over the last 1-2 years until recently. Prior to this incident patient participates in martial arts, swimming and enjoys legos.

Current complaints include knee, ankle and hip pain bilaterally; intermittent paresthesias; loss of mobility and strength; dependence on wheelchair for mobility at this time; fear of standing and walking.

Physical therapy exam revealed lower extremity weakness and reduced mobility in addition to upper motor neuron signs. Specifically, the patient presents with weakness in both lower extremities RT > LT. He is unable to extend his knees against gravity in a seated or supine position and uses his hands to help extend the knees. Hip flexors are grossly 4- to 4/5 and hip extensors are < 3/5 bilaterally. Hamstrings are also weak bilaterally. Dorsiflexors are about 4/5 bilaterally and plantar flexors are at least 3/5 bilaterally with RT being weaker than LT. Hip ab/adductors at least 3/5. Functionally, weakness is seen in quadruped and tall kneeling position both in the transfer and static positioning. Lumbar lordosis is exacerbated in tall kneeling and hip extensor weakness results in loss of balance and reliance on Y ligaments for stability. He requires minimal assist to get into the position and experienced losses of balance during arm motions. He requires extra time to roll into prone from supine. He is unable to perform a sit up but this is his baseline, according to mom.

In standing he locks his knees into extension for stability and requires bilateral UE support for balance. He complained of "very bad" knee pain bilaterally when attempting to take steps in the parallel bars and wanted to stop after about 10 steps.

Range of motion of the lower extremities was normal and patient reported no pain with passive mobility. Swelling of the right knee was noted today. His muscle tone is grossly hypotonic but he was noted to have a 1+ on the Modified Ashworth Scale in both plantar flexors suggesting spasticity. In addition, the patient is hyperreflexic at S1/S2 bilaterally. Clonus was negative bilaterally and Babinski was negative on the right but weakly positive on the left. He was able to perceive light touch in both lower extremities but more sensitive sensation testing was unable to be performed due to age.

In summary, this patient presents with joint pain, occasional paresthesias, moderate weakness of the lower extremities with reduced ability to perform transfers, standing, gait and positions such as kneeling. This represents a significant decline in the patient's prior level of function. Additionally of concern is a cluster of upper motor neuron signs such as hyperreflexia, spasticity in the plantar flexors and a weakly positive babinski sign on the left. Given the unknown origin of the patient's symptoms parents are encouraged to follow up with their physician and were recommended to seek consult with a neurologist as soon as possible (and not wait until February if able). Additionally, physical therapy 2x per week is recommended to address the above impairments and help restore PLOF. Parents educated on a HEP and encouraged to try cool and warm therapy such as warm baths to determine if this affects patient's pain.

Severity % Rationale: Severity modifier selections based on the Pediatric Balance scoring, objective findings and co-morbidity assessment.

Patient requires skilled therapy to restore prior level of function utilizing the treatment and modalities described in this plan of care.

Parent/Patient Education: Discussed findings and POC. Educated parents on having patient play in tall kneeling and quadruped to help strengthen hips and to try cool and warm therapy for joint pain as tolerated



K, **D**
 Male, DOB:
 MRN: 727-35-69, Visit: 41230900, 11/08/2018
 Crawford, Daniel - Neurology

Review of Systems

Systemic no recent fever; no chills; no recent weight loss; no recent weight gain;
ENT no eye discharge; no discharge from ears; **nasal discharge**; no sore throat;
Respiratory no cough; no shortness of breath;
Cardiovascular no palpitations; no chest pain;
Neurology no headache; no convulsions; no dizziness;
Gastrointestinal no vomiting; no nausea; no diarrhea; **constipation**;
Psychiatry no anxiety;
Genito-Urinary no painful urination; no urinary frequency;
Musculo-Skeletal no muscle aches; **muscle weakness**; **localized joint pain**; **abnormality of walk**;
Dermatology not itching; no rash;
Endocrinology no polydipsia; no polyuria;
Hematology no easy bruisability;
Sleep patterns **sleep disturbances**;

Home Medications and Allergies

Home Medications:

Drug	Instructions
No Current Medications	

Allergies

No Known Allergies

Past History

Past Hospitalization/Surgical History

Past Hospitalization/Surgical History

☐ previous hospitalizations ☐ prior surgeries

Past Medical History

Medical History: Additional Details

Autism

Prenatal History

Pre-natal maternal condition: Mother's age at delivery 40; ☒ Twin pregnancy ☐ age 35+;

Antepartum labs: GBS: **positive**

Additional Details: Prenatal History:

Mother denies complications during pregnancy



Male, DOB:
MRN: 727-35-69, Visit: 41230900, 11/08/2018
Crawford, Daniel - Neurology

Type of Delivery: ☒ spontaneous vaginal;

Type of Delivery: ☒ spontaneous vaginal;

Newborn details: Gestational age: 38

weeks:

Hospital where delivered: Banner Desert

; Birth Weight: 6lb 3oz lbs (= 2.7 kg) ;

Additional Details: Birth History:

Mother denies complications during delivery or the neonatal period.

Developmental History

Mother reports that the patient began walking at 12 months of age. She is uncertain of when the patient began talking but notes that he used 2-3 word phrases around 22 months of age. The patient has worked with physical, occupational and speech therapies in the past. His ongoing occupational therapist has not addressed concerns related to the presenting symptoms with the family.

Family Medical History

Family Medical History: Additional Details

Family Medical History: Additional Details
Maternal uncle has a history of asthma. Maternal grandmother has a history of hypertension. Maternal grandfather has a history of hypertension and headaches. Mother has a history of non-metastatic melanoma and Hashimoto's thyroiditis. Father has a history of Hashimoto's thyroiditis. Brother has a history of autism.

Social History

Members of the household: ☒ mother; ☒ father; ☒ brothers;

Vital Signs

Body Measurements:

Weight	Ideal Body Weight (IBW)	height	BMI	Head Circum	BSA (m2)	Birth Weight
42 kg (=92.6 lbs)	wt is % of IBW which is kg	cm		50 cm		kg
% percentile		% percentile	%ile	%ile		

Vital Signs:

Temp	Heart Rate	Resp Rate	BP	BP Percentiles	SpO2	Pain Level 0/10 no pain
C	107		110 systolic	%ile (sys)	FiO2	Pain Scale Numeric
			62 diastolic	%ile (dias)		

Physical Exam

General Appearance: well developed; well nourished; no apparent distress;

Eye Exam: no discharge from conjunctiva;

Ear Exam: outer ear normal; external auditory canal normal;

Nose: no nasal discharge; nasal mucosa normal;

Oral Exam: moist mucous membranes;

Head / Neck Exam: normocephalic;

Lymph Node Exam: no lymphadenopathy;

Lung Exam: no increased work of breathing; no wheezing; no rales; no rhonchi; no stridor;



**PHOENIX
CHILDREN'S
Medical Group**

K

I, D

Male, DOB:

MRN: 727-35-69, Visit: 41230900, 11/08/2018

Crawford, Daniel - Neurology

Cardiovascular Exam: normal heart rate and rhythm; no murmur;

Abdominal Exam: abdomen soft; no abdominal distention; no abdominal tenderness;

Examination of Nails: no clubbing of fingernails;

Skin Exam: no cyanosis of hands and feet;

Neurological Exam

Mental Status: awake; alert; oriented to time, place, and person; **affect abnormal**; memory recall not impaired; attention span and concentration normal; no speech difficulty; adequate fund of knowledge; patient is fearful of examination

Cranial Nerves: ☒ Display cranial nerves;

II PERRL; fundoscopic exam normal; visual fields exam by confrontation normal;

III, IV and VI normal tracking; no eyelid ptosis; no nystagmus; right eye motility normal; left eye motility normal;

V no trigeminal neuropathy with decreased facial sensation;

VII no facial asymmetry;

VIII hearing subjectively normal;

IX and X symmetrical palatal and uvula elevation;

XI shoulder shrug is normal;

XII tongue midline;

Muscle Bulk: ☒ muscle bulk normal;

Strength:

Upper Extremity Strength motor strength of both upper extremities 5/5 except as below:

Normal	Shoulder				Elbow		Wrist	
	Flex	Ext	Abd	Add	Flex	Ext	Flex	Ext
Right	5	5	5	5	5	5	5	5
Left	5	5	5	5	5	5	5	5

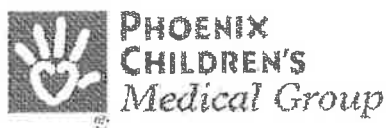
Lower Extremity Strength motor strength of both lower extremities 5/5 except as below:

	Hips				Knees			Ankles		
	Flex	Ext	Abd	Add	Flex	Ext	Dorsiflex	Plantar Flex	Eversion	Inversion
Right	3	3			4	4	5	5		
Left	3	3			4	4	5	5		

Tone: ☒ muscle tone normal all 4 extremities;

Reflexes:

Plantar reflex - toes are down-going bilaterally



K **DY**
Male, DOB:
MRN: 727-35-69, Visit: 41230900, 11/08/2018
Crawford, Daniel - Neurology

DTR: ...all 2+ except as below

DTRs	Biceps	Triceps	Brachiorad.	Knee	Ankle	Plantar reflexes		
Right	2	2		3	2	Right	Flex	Ext
Left	2	2		3	2	Left	Flex	Ext

Sensory: light touch intact; no decreased response to stimulation by vibration on distal extremities;
sensation to temperature symmetrically intact in all extremities

Coordination: normal symmetric rapid alternating movements and finger to nose;

Gait/Station/Balance:

Attempted to assist patient to standing position from wheelchair with significant support. Patient flexed lower extremities at the knees to avoid putting weight on the legs. When feet placed on the ground, patient was unable to stand with support and began to cry in pain. When asked to localized the pain, the patient points to his knees.

Assessment:

Problems	Onset	Type
Weakness_R53.1	2018-11-08	Acute Issue
Pain in lower limb NOS_M79.606	2018-11-08	Acute Issue

Impression and Plan:

Dylan is a 6 year old male who presents with acute onset proximal weakness of the lower extremities and bilateral knee pain. His presenting symptoms and the progression of symptoms is quite peculiar and do not localize to a specific neurologic etiology. It may be even more peculiar that the patient's twin brother developed similar symptoms within a few weeks of Dylan. At this time, a comprehensive neurodiagnostic evaluation is indicated to evaluate for neuromuscular or structural etiology of the presenting symptoms. We will coordinate the diagnostic evaluation with a single anesthesia exposure. We will arrange for the patient to have an EMG with nerve conduction studies, MRI of the brain and complete spine, and laboratory studies to evaluate for potential metabolic and endocrine causes of the presenting symptoms. Upon completion of these studies, we will determine an appropriate plan Dylan should continue to work with his existing therapies. We have submitted a referral to genetics for evaluation given the history of a twin with similar neurodevelopmental disabilities and the recent progression of similar symptoms. Rheumatology evaluation was recommended in the ER, but this has not yet been arranged, so we have submitted a referral for this as well. Please notify our office of any worsening symptoms or new neurologic concerns. A plan for follow up will be determined pending completion of the neurodiagnostic evaluation.

End of Visit - Explanation of Plan:

Instructions for home care: ☒ Call the office and/or bring to Emergency Department for the following;

Worsening symptoms or new neurologic concerns

Health Issue discussed today / Goals / Additional instructions:

☒ I have provided specific education related to the issues discussed during today's visit

Dylan has recent onset weakness and pain in the legs. The presentation is peculiar given that the same symptoms are present in his twin brother. However, we should evaluate further for neurologic causes of the symptoms. We have ordered EMG with nerve conduction studies, MRI of the brain and spinal cord and laboratory studies to further evaluate. These should all be able to be completed while Dylan is under anesthesia. We have submitted a referral to rheumatology and genetics who should also evaluate the patient. We will determine an appropriate plan pending completion of the neurodiagnostic evaluation.

The following issues were discussed during this visit:



PHOENIX
CHILDREN'S
Medical Group

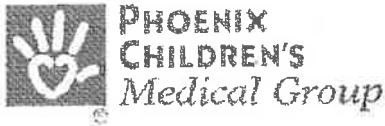
K D'
Male, DOB: (
MRN: 727-35-69, visit: 41230900, 11/08/2018
Crawford, Daniel - Neurology

Coding: Physician Services

Save Log

Author	Status	Saved	Sections authored
Crawford, Daniel (NP)	Final	11/8/2018 6:52 pm	ExplanationOfPlanGroup, NeurologyClinicNoteChapter, VitalSignsSection, PastHistory, PlanSection, ROSSection, SocialHistorySection, HPISection, Coding, ExamSection

Electronically signed by Crawford, Daniel (NP) on 11/8/2018 at 6:52pm



K **KI**
 Male, DOB: (
 MRN: 727-35-70, Visit: 41230906, 11/08/2018
 Crawford, Daniel - Neurology

Neurology Clinic Note v10.17.17.

☐ Initial Visit ☐ Follow Up Visit ☒ Referred to me for consultation

Primary Care Physician/Referring Physician

PCP

Jensen, Scott, MD (Family Practice)

Referring Physician

Timmons, Zebulon, MD (Emergency Medicine)

Chief Complaint-Reason for Visit

LE WEAKNESS

History of Present Illness

Mother reports that the patient hurt his knee after being repeatedly tripped at school and then began to have pain in his knees and tripping and falling. This began in September 2018. The patient's twin brother presented with similar symptoms shortly before this all began. He also began having knee pain in both of his knees and was seen by orthopedics at PCH who reportedly suggested it may be an aggravation of an older knee injury. Beginning in October, the patient began to demonstrate sudden onset difficulty with standing and walking, so mother placed him in a wheelchair for ambulation. Mother took the patient to see a physical therapist who expressed concern about the abnormality. The patient then progressed to pain in his bilateral knees and ankles with occasional tingling over his central patella and outer ankle bilaterally. Mother reports that the patient had instability of the hips and lower extremities when he was evaluated by PT. The physical therapist states that patient developed increasing joint pain and progressively worsening quadriceps strength. Mother states that the patient has not walked in several weeks due to the pain and weakness. The patient been using a wheelchair to get around. Mother describes the child as being "very high functioning" autism. Mother states that the child has many chemical and food intolerances. He is on a strict diet at home that is limited to "New Zealand lamb, meat stock, marrow, and tiny bits of vegetables". Mother states that she believes that the presenting symptoms are associated with chemical exposures in the school setting as the symptoms began after school started this year. She attributes this to dry erase marker use, pesticide, herbicide and cleaning chemical use in the school. The patient was bullied in the classroom at the start of school this year. There is no history of illness prior to the onset of symptoms although the patient has had several viral URIs since the start of school. The patient was recently removed from school, but his symptoms persist. There is no family history of neuromuscular disorder.



K

MRN: 727-35-70, visit: 41230906, 11/08/2018
Crawford, Daniel - Neurology

Review of Systems

Systemic no recent fever; no chills; no recent weight loss; no recent weight gain;

ENT no eye discharge; no discharge from ears; **nasal discharge**; no sore throat;

Respiratory no cough; no shortness of breath;

Cardiovascular no palpitations; no chest pain;

Neurology no headache; no convulsions; no dizziness;

Gastrointestinal no vomiting; no nausea; no diarrhea;

Psychiatry no anxiety,

Genito-Urinary no painful urination; no urinary frequency;

Musculo-Skeletal no muscle aches; muscle weakness; localized joint pain; abnormality of walk:

frequent falls while walking;

Dermatology not itching; no rash;

Endocrinology no polydipsia; no polyuria;

Hematology no easy bruisability;

Sleep patterns sleep disturbances:

Home Medications and Allergies

Home Medications:

Instructions

No Current Medications

Allergies

No Known Allergies

Past History

Past Hospitalization/Surgical History

Past Hospitalization/Surgical History

☐ previous hospitalizations ☐ prior surgeries

Past Medical History

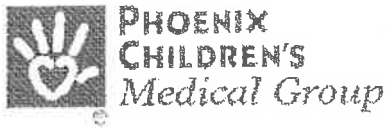
Medical History: Additional Details

Autism

Prenatal History

Pre-natal maternal condition: Mother's age at delivery 40 ; Twin pregnancy ; age 35+;

Antepartum labs: GBS: positive



K **K**
Male, DOB: C
MRN: 727-35-70, Visit: 41230906, 11/08/2018
Crawford, Daniel - Neurology

Additional Details: Prenatal History:

Mother denies complications during pregnancy.

Birth/Labor/Perinatal History

Type of Delivery: ☒ spontaneous vaginal;

Newborn details: Gestational age: 38

weeks;

Hospital where delivered: Banner Desert

; **Birth Weight:** 5lb 7oz lbs (= 2.3 kg) ;

Additional Details: Birth History:

Mother denies complications during delivery or the neonatal period.

Developmental History

Mother reports that the patient began walking at 12 months of age. She is uncertain of when the patient began talking but notes that he used 2-3 word phrases around 22 months of age. The patient has worked with physical, occupational and speech therapies in the past. His ongoing occupational therapist has not addressed concerns related to the presenting symptoms with the family.

Family Medical History

Family Medical History: Additional Details

Maternal uncle has a history of asthma. Maternal grandmother has a history of hypertension. Maternal grandfather has a history of hypertension and headaches. Mother has a history of non-metastatic melanoma and Hashimoto's thyroiditis. Father has a history of Hashimoto's thyroiditis. Brother has a history of autism.

Social History

Members of the household: ☒ mother; ☒ father; ☒ brothers;

Vital Signs

Body Measurements:

Weight	Ideal Body Weight (IBW)	height	BMI	Head Circum	BSA (m2)	Birth Weight
38 kg (=83.8 lbs) % percentile	wt is % of IBW which is kg	cm % percentile	%ile	48 cm %ile		kg

Vital Signs:

Temp	Heart Rate	Resp Rate	BP	BP Percentiles	SpO2	Pain Level
C	115		98 systolic 61 diastolic	%ile (sys) %ile (dias)	FIO2	0/10 no pain Pain Scale Numeric

Physical Exam

General Appearance: well developed; well nourished; no apparent distress;

Eye Exam: no discharge from conjunctiva;

Ear Exam: outer ear normal; external auditory canal normal;

Nose: no nasal discharge; nasal mucosa normal;

Oral Exam: moist mucous membranes;

Head / Neck Exam: normocephalic;



**PHOENIX
CHILDREN'S
Medical Group**

K

K

Male, DOB: 11/08/2018
MRN: 727-35-70, Visit: 41230906, 11/08/2018
Crawford, Daniel - Neurology

Lymph Node Exam: no lymphadenopathy;

Lung Exam: no increased work of breathing; no wheezing; no rales; no rhonchi; no stridor;

Cardiovascular Exam: normal heart rate and rhythm; no murmur;

Abdominal Exam: abdomen soft; no abdominal distention; no abdominal tenderness;

Examination of Nails: no clubbing of fingernails;

Skin Exam: no cyanosis of hands and feet;

Neurological Exam

Mental Status: awake; alert; oriented to time, place, and person; affect normal; memory recall not impaired; attention span and concentration normal; no speech difficulty; adequate fund of knowledge;

Muscle Bulk: ☒ muscle bulk normal;

Strength:

Upper Extremity Strength motor strength of both upper extremities 5/5 except as below:

	Shoulder				Elbow		Wrist	
Normal	Flex	Ext	Abd	Add	Flex	Ext	Flex	Ext
Right	5	5	5	5	5	5	5	5
Left	5	5	5	5	5	5	5	5

Lower Extremity Strength motor strength of both lower extremities 5/5 except as below:

	Hips				Knees		Ankles			
	Flex	Ext	Abd	Add	Flex	Ext	Dorsiflex	Plantar Flex	Eversion	Inversion
Right	3+	3+			4	4	5	5		
Left	3+	3+			4	4	5	5		

Tone : ☒ muscle tone normal all 4 extremities;

Reflexes:

Plantar reflex - toes are down-going bilaterally

DTR: ...all 2+ except as below

DTRs	Biceps	Triceps	Brachiorad.	Knee	Ankle	Plantar reflexes	
Right	2	2		3	2	Right	Flex Ext
Left	2	2		3	2	Left	Flex Ext

Sensory: light touch intact; no decreased response to stimulation by vibration on distal extremities; sensation to temperature symmetrically intact in all extremities

Coordination: normal symmetric rapid alternating movements and finger to nose;

Gait/Station/Balance:

Attempted to assist patient to standing position from wheelchair with significant support. Patient flexed lower extremities at the knees to avoid putting weight on the legs. When feet placed on the ground, patient was unable to stand with support and began to cry in pain. When asked to localized the pain, the patient points to his knees.

Assessment:

Page 4 of 5

K K

KAHRAMAN.002813

Advanced Neurologic Rehabilitation
1447 W Elliot Rd Ste 101
Gilbert, AZ 85233-5166
Phone: (480)699-4845
Fax: (480)699-5085

Physical Therapy Recertification Note



Advanced Neurologic Rehabilitation

Patient Name: I D

Date of Birth:

Referring Physician(s): Jensen, Scott MD / Bowman, Eric MD

Time In/Out: 8:45 am/9:30 am

Visit No.: 17

Visits from SOC: 17

Date of Recertification: 12/14/2018

Injury/Onset/Change of Status Date: 07/02/2018

Diagnosis: ICD10: R26.9: Unspecified abnormalities of gait and mobility, R27.8: Other lack of coordination, F84.0: Autistic disorder, M25.369: Other instability, unspecified knee, M25.569: Pain in unspecified knee

Date of Original Eval: 10/08/2018

Treatment Diagnosis: ICD10: M62.81: Muscle weakness (generalized), R26.81: Unsteadiness on feet, R20.2: Paresthesia of skin, M25.562: Pain in left knee, M25.561: Pain in right knee

Insurance Name: Cigna-American Specialty Health

Subjective

History of Present Condition/Mechanism of Injury: Pt is a 6 year old male with history of bilateral knee pain (started with twisting injury to right knee in July 2018), autism, pervasive developmental disorder, and speech delay. Patient's knees have been examined by multiple physicians and chiropractors since July as he has had several exacerbations of pain and now has not been able to stand or walk since September, 2018 secondary to joint pain and also weakness in the lower extremities. Patient has complained of intermittent paresthesias. X-rays of the lower extremities were unremarkable. Patient was evaluated by PCH Neurology and they did not believe the pain and weakness were of neurologic origin but referred the patient for imaging, EMG and bloodwork. Due to concerns about placing the patient under anesthesia the patient has not had any further testing and parents are working with their Naturopath on a plan to eliminate toxins due to concerns for chemical exposures at school.

Patient has a history of impaired coordination and balance and has received in home therapy from a young age. His balance, however, is much better over the last 1-2 years until recently. Patient participates in martial arts, swimming and enjoys legos.

Current Complaints / Gains: 12/14/18: improved tolerance of weight bearing, reduced complaints of pain, increased strength in lower extremities but continues to use wheelchair, scooting and carrying for primary mobility at home/community; LE weakness continues to impair standing and walking

Before the Injury/onset/change of status date, the patient was able to perform the following activities:

Changing & Maintaining Body Position: Independent in transfers and standing

Mobility: Walking & Moving Around:

Current Functional Limitations:

Changing & Maintaining Body Position: Maintaining a Body Position: Kneeling, Standing - Able to get into kneeling on his own - Weakness noted in these positions

Mobility: Walking & Moving Around: Use of an Assistive Device: Wheelchair for mobility; Walking: 3-5ft in parallel bars with BUE assist; Moving Around: Walk only in PT at this point; Moving Around in Different Locations: Impaired - Pt will play on the floor or sit on the couch, uses wheelchair for all mobility

Informant Providing History: Mother

Social History:

Social History: Lives with Family; (Parents and twin brother)

Home Layout: 2-story

Durable Medical Equipment: Wheelchair

Home Health Care: No

Premature Birth: No

Any Complications: No

Child in NICU: No

Special Precautions: Food Allergy, Pt's prefer natural cleaning products for wiping mat

Medical History: Autism, developmental disorder

Complicating/Personal Factors: Mechanism of injury/ Illness (Initial injury with unexpected progression), Multiple Treatment Areas (Bilateral lower extremities), Patient age (6yo), Previous Therapy (Since a young age)

Medical History Review: The patient has a history of present problem with a history of 1-2 personal factors and/or comorbidities that impact the plan of care.

Mental Status/Cognitive Function Appears Impaired? No

Current Medications: Not currently taking any medications

School Attending: Basis Chandler Primary North

Grade Level: Kindergarten

Objective

Inspection

From HylaFAX Enterprise

Fri 14 Dec 2018 05:48:21 PM UTC

Page 3 of 6

Advanced Neurologic Rehabilitation
 1447 W Elliot Rd Ste 101
 Gilbert, AZ 85233-5166
 Phone: (480)699-4845
 Fax: (480)699-5085

Physical Therapy Recertification Note

Patient Name: Dylan
 Date of Birth: ()
 Document Date: 12/14/2018

Patient Consent

Patient/Parent/Guardian Consent Yes

Family Understands Diagnosis

Comments Patient able to answer questions and follow all directions

Outcome Measurement Tools *Previous Findings as of 11/28/2018

Pediatrics

Pediatric Balance 10/56 9

Observation

Transfers

Supine to Sit

Independent
 Modified with use of hands

Sit to Stand

Needs verbal cues for technique
 with BUE support

Gait Tentative, wide BOS, slow speed and small step length for short distance

Assistive Device

Type Parallel bars
 Hand Used Bilateral

Muscular Asymmetries Weakness greater in the right LE than LT

Development Skills

Rolls Belly to Back
 Rolls Back to Belly
 Sits Alone
 Moves From Lying to Sitting
 Crawls
 Stands Alone With BUE support only
 Walks Alone Taking steps in // bars with BUE support
 Runs Not currently running but was running prior to this injury

Muscle Tone Decreased Tone

Range of Motion *Previous Findings as of 11/28/2018

Hip PROM	Right	Left		
Flexion	WFL	WFL	WFL	WFL
Extension	WFL	WFL	WFL	WFL
Abduction	WFL	WFL	WFL	WFL
Adduction	WFL	WFL	WFL	WFL
Internal Rotation	WFL	WFL	WFL	WFL
External Rotation	WFL	WFL	WFL	WFL
Knee PROM	Right	Left		
Flexion	WFL	WFL	WFL	WFL
Extension	WFL	WFL	WFL	WFL

Advanced Neurologic Rehabilitation
1447 W Elliot Rd Ste 101
Gilbert, AZ 85233-5166
Phone: (480)699-4845
Fax: (480)699-5085

Physical Therapy Recertification Note

Patient Name: [REDACTED]
Date of Birth: [REDACTED]
Document Date: 12/14/2018

Ankle PROM	Right	Left		
Dorsiflexion at 0 Knee Flexion	WFL	WFL	WFL	WFL
Dorsiflexion at 90 Knee Flexion	WFL	WFL	WFL	WFL
Plantarflexion	WFL	WFL	WFL	WFL
Inversion	WFL	WFL	WFL	WFL
Eversion	WFL	WFL	WFL	WFL

Comments Patient reported no pain during passive range of motion of lower extremity joints

Patient reported no pain during passive range of motion of lower extremity joints

Strength

**Previous Findings as of 11/28/2018*

Comments Formal testing difficult due to age but gross measurements are as follows:

Formal testing difficult due to age but gross measurements are as follows:

Hip flexors 4/5 RT, 4/5 LT
Hip extensors 4/5 bilaterally
Hip ab/adductors at least 3/5 bilaterally
Hamstring 4/5 RT and at least 4/5 LT
Quads 3/5 on R1, 3+/5 on L1
Dorsiflexors: 4/5 bilaterally
Plantarflexors: at least 3/5 bilaterally

*Hip flexors 4/5 RT, 4-/5 LT
Hip extensors 4/5 bilaterally
Hip ab/adductors at least 3/5 bilaterally
Hamstring 4/5 RT and at least 4/5 LT
Quads 3/5 on RT, 3/5 on LT
Dorsiflexors: 4/5 bilaterally
Plantarflexors: at least 3/5 bilaterally*

Special Tests

**Previous Findings as of 11/28/2018*

Comments Patient able to locate PT touching bilateral legs in different areas with light touch.

Patient able to locate PT touching bilateral legs in different areas with light touch.

Cranial nerves appear intact

Cranial nerves appear intact

Reflexes: hyperreflexic in S1/S2 bilaterally
Tone: overall hypotonia but MAS 1+ bilateral plantarflexors

*Reflexes: hyperreflexic in S1/S2 bilaterally
Clonus: negative bilaterally, patient began to cry when PT tested left ankle with an extended knee reporting pain
Tone: overall hypotonia but MAS 1+ bilateral plantarflexors
Babinski: negative RLE, weakly positive LLE*

Assessment

Advanced Neurologic Rehabilitation
 1447 W Elliot Rd Ste 101
 Gilbert, AZ 85233-5166
 Phone: (480)699-4845
 Fax: (480)699-5085

Physical Therapy Recertification Note

Patient Name: K
 Date of Birth:
 Document Date: 12/14/2018

Assessment/Diagnosis: Pt is a 6 year old male with history of bilateral knee pain (started with twisting injury to right knee in July 2018), autism, pervasive developmental disorder, and speech delay. Patient's knees have been examined by multiple physicians and chiropractors since July as he has had several exacerbations of pain and now has not been able to stand or walk since September, 2018 secondary to joint pain and also weakness in the lower extremities. Patient has complained of intermittent paresthesias. X-rays of the lower extremities were unremarkable. Patient was evaluated by PCH Neurology and they did not believe the pain and weakness were of neurologic origin but referred the patient for imaging, EMG and blood work. Due to concerns about placing the patient under anesthesia the patient has not had any further testing and parents are working with their Naturopath on a plan to eliminate toxins due to concerns for chemical exposures at school/community.

Since beginning therapy the patient's joint pain and quadriceps weakness initially worsened until the patient was unable to extend the knee even 10 degrees against gravity in a seated position. Over the last month, however, though his symptoms have waxed and waned a bit he has been making steady improvements. The patient's complaints of knee pain and other lower extremity joint pain have decreased considerably allowing increased participation in activities such as crawling on hands and knees, tall kneeling, quadruped, standing briefly with UE weight bearing and side stepping in modified plantigrade. He was able to stand for 30 seconds and walk 15 steps with BUE weight bearing though his steps are slow and hesitant. He will accept weight through his feet with extended knees in a modified plantigrade position and take lateral steps across a small distance x 10 minutes and was noted to stand with his hands on the table with knee extended and hips extended with a wide BOS. Muscle strength in the quadriceps is now 3 to 3+/5 bilaterally though preference is still shown for activating hip flexors over quads. He is also able to attain and maintain a tall kneeling position without hand support but prefers 1-2 hand support. Lower extremity weakness is still seen functionally when attempting to stand, transition up to tall kneel or standing without assistance from PT and crawl, however.

Though the cause of his symptoms has not been confirmed by his physicians, parents feel confident that the improvement in symptoms in conjunction with toxin elimination points to that as a cause and the patient has been progressing toward recovery over the last few weeks with improvements in strength and motor recruitment and reduction in pain symptoms. Despite these improvements, however, this child has been unable to stand comfortably or walk functional distances for more than 3 months and continues to be transported in a wheelchair. He requires continued skilled therapy intervention to facilitate the continuation of his recovery and restore his prior level of function.

Patient Clinical Presentation: The clinical presentation is evolving with changing characteristics.

Primary Functional Limitation: Mobility: Walking & Moving Around

Current Status: G8978: CK, At least 40% but < 60% impaired, limited or restricted

Projected Goal Status: G8979: CI, At least 1% but < 20% impaired, limited or restricted

Severity % Rationale: Severity modifier selections based on the Pediatric Balance scoring, objective findings and co-morbidity assessment.

Patient requires skilled therapy to restore prior level of function utilizing the treatment and modalities described in this plan of care.

Rehab Potential: Good

Patient Problems:

- Limitations with Mobility: Walking & Moving Around
- Muscle weakness lower extremities
- Impaired balance
- Impaired mobility in standing and walking
- Impaired transfers
- Pain in lower extremity joints
- Reduced independence in age appropriate play and ADLs

Short Term Goals:

- 1: (3 Weeks) | Goal Met | Parents will be independent in HEP to meet established PT goals |
- 2: (4 Weeks) | 70% | Patient will be able to transition into tall kneeling and maintain with hands across chest x 30 seconds without support |
- 3: (5 Weeks) | 10% | Patient will stand x 5 minutes with no more than 1 hand support while playing a game |
- 4: (5 Weeks) | 65% | Patient will ambulate 10 feet with BUE assist with complaints of only mild knee pain |
- 5: (6 Weeks) | 75% | Patient will perform SLR on the RLE to 60 degrees independently to improve ability to stand and walk |

Long Term Goals:

- 1: (8 Weeks) | 10% | At least 1% but less than 20% impaired, limited or restricted with Mobility: Walking & Moving Around |
- 2: (8 Weeks) | 50% | Patient will be able to transition into tall kneeling and maintain balance while reaching outside BOS in all directions in 3/4 trials independently |
- 3: (8 Weeks) | 5% | Patient will stand x 5 minutes with no hand support while playing a game | 3s
- 4: (7 Weeks) | 0% | Patient will ambulate 30ft with UUE assist or less with complaints of only mild knee pain |
- 5: (8 Weeks) | 40% | Patient will have at least 4/5 strength in bilateral quadriceps muscles to improve strength and walking |
- 6: (3 Weeks) | Patient will stand in // bars with BUE support x 2 minutes without rest | New goal

Plan

From HylaFAX Enterprise

Fri 14 Dec 2018 05:48:21 PM UTC

Page 6 of 6

Advanced Neurologic Rehabilitation
 1447 W Elliot Rd Ste 101
 Gilbert, AZ 85233-5166
 Phone: (480)699-4845
 Fax: (480)699-5085

Physical Therapy Recertification Note

Patient Name: K [redacted]
 Date of Birth: [redacted]
 Document Date: 12/14/2018

Frequency: 2 times a week

Duration: 8 weeks

Treatment to be provided:

Procedures

Therapeutic Exercises (Strength, Endurance, Stability), Therapeutic Activity (Sport Specific, Transfers, Bed Mobility, ADL Specific), Gait Training (Even Surfaces, Uneven Surfaces, Stairs, Curbs), Neuromuscular Rehabilitation (Balance/Proprioception Training, Muscle Re-Education, Sequencing, Coordination), Manual Therapy, Patient Education (Home Exercise Program, Activity Modification, Home Safety)

Modalities

To Improve (Pain Relief), Cryotherapy, Hot Packs

Certification of Medical Necessity: It will be understood that the treatment plan mentioned above is certified medically necessary by the documenting therapist and referring physician mentioned in this report. Unless the physician indicates otherwise through written correspondence with our office, all further referrals will act as certification of medical necessity on the treatment plan indicated above.

Thank you for this referral. If you have questions regarding this plan of care, please contact me at (480)699 4845. Please sign and return: Fax#: (480)699-5085

Nicole A. McCants, PT, DPT

Nicole McCants, PT, DPT
 License #11151

Electronically Signed by Nicole McCants, PT, DPT on December 14, 2018 at 10:01 am

I certify the need for these services furnished under this plan of treatment and while under my care.

I have no revisions to the plan of care.
 Revise the plan of care as follows _____

Physician Signature _____

S. Jensen, MD

Date: *12/14/18*

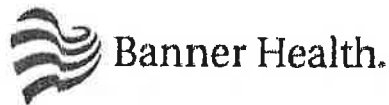
Physician Signature _____

E. Bowman, MD

Date: _____

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KAHRAMAN 002825



January 03, 2019

SCOTT JENSEN MD
21321 E OCOTILLO RD STE 123
QUEEN, AZ 85142

Re: D' K
DOB:

Dear Colleague,

Thank you for the opportunity of seeing your patient today. Attached is a summary of today's visit and my recommendation(s). Thank you for allowing us to participate with this patient's care. Please feel free to contact me with any questions.

Sent on behalf of Dr. Miga
1432 S. Dobson Road. Suite 512
Mesa, AZ 85202
Phone: 480-412-6336
Fax: 480-412-8013

Sincerely,
Ana Ortiz-Delgado

The following document(s) were included in the letter:

December 24, 2018 13:25:00 MST - (12/24/2018) Pediatric Cardiology consult Note

Result type: .Consultation Report
 Date/Time of Service: December 24, 2018 13:25 MST
 Result status: Auth (Verified)
 Result title: Pediatric Cardiology consult Note
 Contributed By: MIGA MD, DANIEL EDWARD on December 24, 2018 13:52 MST
 Verified by: MIGA MD, DANIEL EDWARD on December 24, 2018 13:57 MST
 Encounter info: 0008959751, AZE PedCard Mesa Dobson #512, Clinic, 12/24/2018 - 12/24/2018
 Patient Info: K, D Male

* Final Report *

Reason for Consultation

Family history of pulmonary hypertension/abnormal ECG.

History of Present Illness

Name: KAHRAMAN, DYLAN KEMAL Age: DOB:
 (Sex: Male

Dear Dr. Jensen,

I had the opportunity to evaluate Dylan in the Banner Specialists Pediatric Cardiology Clinic on 12/24/2018. As you recall, he is the 6-year-old male whom you requested a Cardiology consultation due to a family history of pulmonary hypertension. He comes to clinic with his mother. His other medical problems include mild autism, chronic feeding intolerances, chemical sensitivities and failure to thrive. His brother was recently diagnosed with severe pulmonary hypertension and secondary right heart failure and was admitted to the hospital. Dylan was in his usual state of good health until 2 months ago when he stopped walking. This corresponded to starting school and his mother attributes his problems to chemical exposure at school. Dylan continues to refuse to walk because of pain and in fact is often using a wheelchair. He was previously evaluated by the orthopedic surgeon at Banner and at Phoenix Children's Hospital and does not have any orthopedic diagnosis. He has been on a very restrictive GAPS diet for several years and has had significant failure to thrive. Unfortunately, the family was reported to CPS and therefore the family was very required to undergo a potential child abuse evaluation. He was seen in the emergency room yesterday. Multiple laboratories were obtained and he was found to have a low pre-albumin and mildly elevated sedimentation rate. The remainder of his laboratories were unremarkable. Aside from his refusal to walk, his mother denies additional cardiovascular symptoms such as chest pain, palpitations, tachycardia, dizziness, syncope, shortness of breath, fatigue, edema or exercise intolerance.

PAST MEDICAL HISTORY: As above. He has had no hospitalizations or surgeries. He is on no medications. He has no drug allergies. His immunizations are up to date. His growth and development are delayed. He lives with his mother, father and twin brother. There is passive smoke exposure at home. The family history is negative for congenital heart disease; sudden death and murmurs. Positive for pulmonary hypertension of unclear etiology in his twin brother.

Review of Systems

POSITIVE SYMPTOMS ARE IN BOLDDED TEXT; ALL OTHER SYSTEMS WERE REVIEWED AND ARE NEGATIVE

CONSTITUTIONAL: **activity change**, appetite change, fever, irritability,

Problem List/Past Medical History

Ongoing

Autism
 Family history of pulmonary hypertension

Procedure/Surgical History

- No previous surgical history

Medications

Home

No active home medications

Allergies

Milk Products
 salicylates (rash, irritable)

Social History

Home/Environment

Lives with: Mother, Father, Siblings., 12/24/2018

Nutrition/Health

Diet description: Restrictive GAPS diet., 12/24/2018

Tobacco

Exposure to secondhand smoke: Yes., 12/24/2018

Family History

Autism: Brother.
 Hashimoto's disease: Father.
 Melanoma...: Negative: Brother.
 Melanoma...: Mother.
 Mouth cancer...: Negative: Brother.
 Multiple myeloma...: Negative: Brother.
 Pulmonary hypertension: Brother.

lethargy, **slow weight gain**, trouble sleeping

EYE: eye drainage, lazy eye.

ENMT: cavities, gum bleeding, hearing loss, nasal congestion, nosebleeds, sleep apnea.

RESPIRATORY: asthma symptoms, cough, frequent pneumonia, shortness of breath, snoring, wheezing.

CARDIAC: see HPI.

GASTROINTESTINAL: **abdominal distension**, abdominal pain, eating problems, nausea, swallowing difficulty, reflux symptoms, vomiting

GENITOURINARY: blood in the urine, decreased urination, frequent urination

HEMATOLOGIC: anemia, easy bleeding, easy to bruise, leukemia, swollen glands

ENDOCRINE: diabetes, excessive weight gain, slow growth, thyroid disease, weight loss

MUSCULOSKELETAL: bone deformity, muscle aches, scoliosis

SKIN: birthmarks, cyanosis, nail changes, rash

NEUROLOGICAL: dizziness, **developmental delay**, headache, hyperactivity, seizures, **weakness**

PSYCHIATRIC: ADD, ADHD, Depression

ALLERGY/IMMUNE: **environmental allergies**, persistent infections

Physical Exam

Vitals & Measurements

T: 37.0 °C HR: 101 RR: 20 SpO2: 99%

HT: 105 cm WT: 18.3 kg BMI: 16.6

Other Vitals

PHYSICAL EXAMINATION: Vital signs reviewed. In general, this is a small healthy appearing male in no distress. The skin is pale and warm. HEENT: NC/AT; eyes present; external ears are normal. Oropharynx is moist without cyanosis. The neck is supple without JVD, adenopathy or thyromegaly. The lungs are clear to auscultation. The chest is without deformity. The cardiac examination reveals a quiet precordium with a normal S1 and normal split S2. There are no clicks, gallops, rubs or murmurs. The abdomen is soft but mildly distended without hepatomegaly. The extremities reveal full range of motion with no clubbing, cyanosis or edema. The pulses are 2+ and symmetrical in the upper and lower extremities. Neurologic examination reveals normal tone and strength. He has mild developmental delays and refuses to walk.

LABORATORIES (I ordered and personally reviewed all laboratory tests): ECG reveals normal sinus rhythm with sinus arrhythmia, T wave inversion in the right precordial leads and borderline prolonged QT interval.

Echocardiogram reveals the following:

- Normal segmental cardiac anatomy.
- Normal right ventricular size without hypertrophy and normal systolic function.
- Normal left ventricular size without hypertrophy and normal systolic function.

Assessment/Plan

DIAGNOSIS:

- Abnormal ECG
- Family history of pulmonary hypertension
- Malnutrition
- Chronic food intolerance
- Autism
- Weakness

IMPRESSION: Dylan is the 6-year-old male with mild autism, chronic food intolerance and chemical sensitivities. He has a long-standing history of not walking of unclear etiology. His twin brother has the same medical issues but was recently admitted to the hospital and diagnosed with severe pulmonary hypertension and secondary right heart failure. Aside from his inability to walk, he has no additional cardiovascular symptoms. His cardiac examination is normal except he has short stature and has fallen off the growth curve over the last few years. His ECG is abnormal with T wave inversions in the right precordial leads and a borderline prolonged QTC. An echocardiogram confirms normal cardiac anatomy and function. Dylan has a normal heart and does not have any evidence of pulmonary hypertension or cardiac dysfunction. Dylan has significant malnutrition as a result of a very restrictive GAPS diet. He and his brother have limited nutritional intake due to their "food intolerance." He is stuck in the first stages of the GAPS diet and has not progressed in years. I am very concerned about his inability to walk and it raises a concern for a neuromuscular disease although he does not have any obvious weakness or neurologic findings. I also suspect a large component is behavioral and may be related to his underlying malnutrition. He should undergo a comprehensive neuromuscular evaluation and nutritional evaluation. Although he does not have any evidence of pulmonary hypertension, given the similarities to his brother's condition I remain concerned he could develop pulmonary hypertension in the future. His abnormal ECG is likely related to his nutritional deficits. At this time he does not require any cardiac activity restrictions or special precautions. I reviewed my findings and recommendations in detail with the family and reassured them. They had ample opportunity to ask questions and felt comfortable with our discussion. They voiced their understanding of the diagnosis and plan.

DISPOSITION:

- Continue routine medical care.
- No cardiac medications required.
- SBE prophylaxis is not required.
- No cardiac activity restrictions required.
- Recommend comprehensive neuromuscular evaluation and nutritional evaluation.
- Follow-up in 1 year with a repeat ECG and echocardiogram or sooner if any problems arise.

Thank you for this interesting consultation and allowing me to participate in his care. Please do not hesitate to call with any questions or concerns.

Sincerely,
Daniel E. Miga, MD

Coded Diagnoses

Abnormal ECG (Abnormal electrocardiogram [ECG] [EKG], R94.31)
Family history of pulmonary hypertension (Family history of ischemic heart disease and other diseases of the circulatory system, Z82.49)

[The following text is extremely faint and largely illegible. It appears to be a multi-paragraph document, possibly a letter or a report, containing various sentences and possibly some bullet points or numbered lists. The text is too light to transcribe accurately.]